## Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in this application:

## Listing of Claims

Claim 1 (currently amended): ~~A system for data collection through an alternate current supply network comprising one main unit and a plurality of slave units, in which said main unit sends a timing signal of a predetermined form, consisting of one or several characters, which is simultaneously received by all slave units, wherein as character synchronization events all system units use zero crossing points of the fundamental harmonic of system supply network voltage and a main unit sends said timing signal strictly periodically at equal intervals while a slave unit of counting N transmits its data during half-cycle N of network fundamental voltage counting from a timing signal end point.~~

A system for transmitting data using a network carrying an AC current, comprising:

a timing signal source periodically transmitting timing signals comprising one or more timing signal symbols and using the AC current to determine when each timing signal symbol is transmitted;

a plurality of numbered slave units,

each numbered slave unit receiving at least one timing signal and using the AC current to determine when each timing signal symbol is received,

each numbered slave unit transmitting a data signal using its number and time when a timing signal is received to determine when to begin transmitting so that data signals from the slave units do not overlap with each other or with the timing signals; and

a main unit receiving the data signals from the slave units.

Claim 2 (currently amended): [[A]] The system ~~for data collection~~ according to claim 1, wherein, in case of temporary absence of the timing ~~signal~~ signals, the slave units

continue data transmission ~~within "their" half-cycles of network fundamental voltage~~ computing ~~their temporary location~~ when to begin transmitting ~~from a known half-cycle value of~~ using a previously received timing signal.

Claim 3 (currently amended): [[A]] The system ~~for data collection~~ according to ~~any one of claims~~ claim 1, [[2,]] wherein ~~a source supplying a~~ the timing signal source is not ~~a system~~ the main unit ~~but some other individual device~~.

Claim 4 (currently amended): [[A]] The system ~~for data collection~~ according to ~~any one of claims~~ claim 1, [[2, 3,]] wherein [[a]] the timing signal is ~~subjected to modulation~~ modulated and used [[for]] to broadcast data ~~transmission~~ from [[a]] the main unit to the slave [[ones]] units.

Claim 5 (currently amended): [[A]] The system ~~for data collection~~ according to ~~any one of claims~~ claim 1, [[2, 3,]] wherein all signals being transmitted by [[a]] the main and slave units have a duration equal to 1/3 of ~~a network~~ the AC current voltage half-cycle and are ~~centred~~ centered about zero crossing points of the ~~fundamental harmonic of system supply line~~ AC current voltage.

Claim 6 (new): The system according to claim 1, wherein the timing signal source is the main unit.

Claim 7 (new): The system according to claim 1, wherein each timing signal symbol is transmitted over a half-cycle of the AC current voltage.

Claim 8 (new): The system according to claim 1, wherein the start of each timing signal symbol transmission is when the AC current voltage value is zero.

Claim 9 (new): The system according to claim 1, wherein each data signal is transmitted over a half-cycle of the AC current voltage.

Claim 10 (new): The system according to claim 1, wherein the start of each data signal transmission is when the AC current voltage value is zero.

Claim 11 (new): The system according to claim 1, wherein each data signal is transmitted by each N-th numbered slave unit over an N-th half-cycle of the AC current voltage after the end of timing signal.